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BREAST ULTRASOUND IN THE INTERIOR OF THE STATE OF SANTA CATARINA, BRAZIL

Ultrassom de mama no interior do estado de Santa Catarina

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ABSTRACT

Breast ultrasound is an essential tool in Mastology. This technology can help in the diagnosis of lesions affecting the mammary gland, identifying both benign and malignant tumors. However, ultrasound examination has precise indications in medical practice; and should be indicated cautiously, as one should not think it can tackle all diagnoses of the breast. In this paper, the author assesses 197 breast ultrasounds in the city of Chapecó, Santa Catarina, Brazil. The author reports lack of clinical criteria in many indications of ultrasound examination by health professionals at Basic Health Units of the city.

KEYWORDS: Breast; screening; ultrasonography, mammary.

RESUMO

O exame de ultrassom de mama é imprescindível em mastologia. Essa tecnologia pode ajudar no diagnóstico de lesões que acometem a glândula mamária, identificando tumores tanto benignos como, possivelmente, malignos. Entretanto, o uso desse exame tem indicações precisas na prática médica. Ele deve ser pedido com critério e não se deve acreditar que solucionará todos os diagnósticos das lesões mamárias. Neste trabalho, o autor analisa 197 pedidos de exame de ultrassom de mama, realizados na cidade de Chapecó (SC). O autor atribui a falta de critério clínico em muitas indicações para o exame de ultrassom pelos profissionais de saúde que atendem nas Unidades Básicas de Saúde da cidade.

PALAVRAS-CHAVE: Mamas; rastreamento; ultrassonografia mamária.

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INTRODUCTION

The importance of breast ultrasound in the diagnosis of breast tumors of various types is unquestionable. This examination is becoming more common in mastology, complementing clinic and mammographic assessments. Initially, its use was limited to the differentiation of solid tumors and mammary cysts. The present equipment allows to evaluate anatomical changes of the breasts in details, thus being fundamental in mastology practice. Modern ultrasound devices are highly sensitive and specific[1] and, according to Stavros[2], are aimed to identify palpable breast abnormalities or alterations spotted by mammographic examination.

In some cases, breast ultrasound is used as a means of screening patients at increased risk for breast cancer. This practice is not supported by the Brazilian College of Radiology and Diagnostic Imaging or by the Brazilian Society of Mastology and the Brazilian Federation of Gynecology and Obstetrics Associations[3].

The author of the present study evaluated 197 requests of this exam for users of the municipal public health service in the city of Chapecó, western Santa Catarina. When analyzing the profile of patients referred to the exam and the data extracted from the medical orders, many of them were found to be not justifiable. A survey on these data may contribute to better strategies in women's health programs across the municipality.

MATERIAL AND METHODS

The city of Chapecó, located in the west of Santa Catarina, has approximately 200 thousand inhabitants and is the most important in the region. The Health Secretariat tries to provide the population with assistance in several centers and to deliver good health to those serviced by different Basic Health Units (UBS).

Women assisted at the UBSs with breast-related complaints are evaluated at the units and sent to appointments with gynecologists or mastologists. Not all UBS have professionals with specific qualifications to care for gynecology and/or mastology, but all of them have physicians practicing general medicine or working for the Family Health Program. Breast imaging is mostly performed at a clinic dedicated to women, which is run by the Health Secretariat and located in a central area of the city. Few exams are performed by private clinics that have an alliance with the public system.

The information found in ultrasound orders was divided into three groups: patients' personal information, referral for examination, and specialty of the professional ordering it. As these were already included in medical orders that had been sent to the Women's Clinic, signature of the informed consent form was not required.

The author created a method of identification of patients in each questionnaire, noting their initials at the top right of the medical record along with the date of exam performance. Keeping these documents and confidentiality of data collected by the research instrument was his responsibility.

The information collected was analyzed based on the percentage obtained, and the statistical test χ^2 was applied when necessary.

A copy of the project was sent to the Ethics Committee of the Health Secretariat, which approved the research in full, so that the study could be conducted.

RESULTS

The questionnaire was divided in three parts. The first part contains the profile of women referred for ultrasound (Table 1).

The second session of the questionnaire analyzes the medical requests for ultrasound examination of 197 women included in the study (Table 2). "Breast nodule", as expected, was the most cited reason for imaging examination.

Table 1. Percentage of women referred for breast ultrasound.

Age	N	%
15-25 years	27	14
>25-35 years	72	36
>35 years	98	49
Marital Status		
Single	41	21
Married	105	53
Widow	15	7
Stable union	20	10
Split	16	8
Parity		
Zero	43	22
1–4 children	145	73
>4 children	9	4
Health coverage		
SUS	183	93
Other insurances	14	7
Non household-related work		
Yes	93	47
No	104	53
Previous ultrasound		
Yes	82	41
No	115	58
Breast cancer Family history*		
Yes	49	25
No	146	74

SUS: Brazilian Public Health System; *two patients could not inform about family history.

Table 3 shows the field of acting of physicians who requested breast ultrasound examination. Most physicians working at the UBS act as general physicians and in the Family Health Program, which explains the high percentage of requests by these professionals.

Family history of breast cancer might motivate the increase in requests for breast ultrasound by professionals specialized in women's health, when compared to general practitioners and/or PSF professionals. However, family history was not statistically significant when requests for breast ultrasound by general practitioners and by women's health specialists were compared (Table 4).

DISCUSSION

A total of 197 women were referred to the Women's Clinic for breast ultrasound examination for various reasons in the course of five months. A questionnaire designed by the author was applied to this group to evaluate the profile of patients referred. Clinical indications, previous examination — of any — and breast cancer family history were analyzed as possible influence on examination request.

Table 2. medical reason for breast ultrasound examination.

Indication	N	%
Breast nodule	77	39
Complementary to mammography	57	29
Breast tenderness	31	15
Routine	16	8
Post-surgical control after papillary discharge	8	4
Not informed	8	4

Table 3. Specialties of physicians who requested breast ultrasound.

Professional	N	%
General practitioner and Family Health Program	117	59
Women's health	72	37
Other specialties	8	3

Table 4. Breast Family history* as the reason for breast ultrasound request

	Positive	Negative
Specialist in women's health	24	47
General practitioner and Family Health Program	28	96

p=1.54; *two patients did not know if there were breast cancer history in their families.

Patients eligible for the examination were supposed to be <35 years old, according to Dixon[1]. Henderson considers an even lower age (30) when a nodule is discovered and the mammogram does not help due to higher density of breast tissue[4]. This study showed that nearly half (49%) of these women were out of the age group proposed by authors such as Dixon[1]. The other half of patients referred for breast ultrasound would probably have been better evaluated by clinical examination and mammography.

In this study, complementary imaging, mammography, and ultrasound were performed in 29% of patients referred. Professor Thomas Stavros states in one of his many papers that only three breast cancers are diagnosed every 1,000 screening mammograms, which is equivalent to 0.3%[2]. Applying this percentage to this 197 population, conclusion is that breast cancer diagnosis would not reach 1%. The lack of knowledge about the study by Stavros, added to the uncertainty of mammography assessment and suggestion of complementary ultrasound by radiologists at the time of report writing can explain why almost 1/3 of women were referred for breast ultrasound.

Breast cancer family history did not result in greater number of ultrasound requests by gynecologists and/or mastologists of the Health Secretariat as compared to requests by general practitioners or physicians of the family health strategy. The percentage of requests for patients with family history by specialists was 12%, while among physicians referred to as generalists or taking part in the family health program the score was14%.

The clinical complaint of breast nodules was the main reason for breast ultrasound indication among 197 patients. Specific works on this matter also point to breast nodules as the main reason for such request[5]. Zabolotskaya[6] reported that malignant breast tumors appear in the upper outer quadrant of the breast in more than 50% of cases; in the upper inner quadrant in 15% of cases; in the lower outer quadrant in 10% of cases, in the upper inner quadrant in 5% of cases.

The research conducted in the municipality of Chapecó, Santa Catarina, also showed that breast pain complaint was the second most common reason for breast ultrasound (15%). According to Dixon, this reason is not routine for this type of examination[1].

Breast ultrasound is not an instrument for breast cancer screening. It is of great value for clinical situations such as breast tenderness according to the consensus report from a meeting on this subject matter[3]. Mammography is the only breast cancer screening test that can reduce mortality from this disease, according to Tabar[7], although the study ACRIN 6666 has shown that breast ultrasound as complement to mammography increases the rate of detection of compared to mammography only[8].

It is undeniable that breast ultrasound is of great utility for medical practice, usually conducted in a targeted manner, following mammography and clinical examination, to provide a more specific diagnosis of compared to each method alone[2]. From 1980, breast ultrasound was added to the set of imaging exams commonly requested, especially in mastology[5]. However, when analyzing data

obtained from this first research, the author believes that deeper knowledge about breast ultrasound indication is requited so that women can really benefit from being evaluated at the UBS of the city of Chapecó. The author also believes that such study is based on conclusions previously reported by Porter and Teinsberg, who emphasized the correct use of technological resources for health care efficacy and no waste of resources in medical practice[9].

CONCLUSION

The study carried out in the city of Chapecó, Santa Catarina, to assess 197 requests for breast ultrasound examination, brings about the need to better qualify health professionals hired in UBS so they can perform this examination and identify which patients would actually benefit from it, thus reaching the best practical result and minimizing the waste of resources.

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